

REMARKS

Claims 1-2, 4-8, 10-13, 21-29, 32 are pending in the application. Claim 33 has been cancelled herein.

Claims 1, 2, 7, 8, 13, and 21-27 have been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over U.S. Patent No. 5,905,278 to Nakabayashi ("Nakabayashi") in view of U.S. Patent No. 6,617,634 to Marsh, *et al.* ("Marsh"). Claims 4, 10, 28, 29, 32, and 33 have been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Nakabayashi in view of Marsh and further in view of U.S. Patent No. 5,838,035 to Ramesh ("Ramesh"). Claims 6 and 12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Nakabayashi in view of Marsh and further in view of U.S. Patent No. 6,313,539 to Yokoyama, *et al.* ("Yokoyama"). Applicants respectfully traverse these rejections.

In view of failure of the Office Action to provide a prima facie case of obviousness as discussed below, Applicants respectfully request that the finality of the Office Action be withdrawn and the claims be allowed to issue or a new Office Action be issued.

Regarding claims 1, 8, and 28, the Office Action asserts that "Nakabayashi fails to teach that the second conductive liner has a thickness from about 20 to about 50 angstroms," for which the Office Action asserts Marsh discloses. In particular, the Office Action asserts that "Marsh discloses an integrated circuit device including an [sic] conductive layer (24) comprising iridium oxide (column 5, lines 30-40) having a thickness of about 50 angstroms (column 5, line 25)." (Office Action, pages 3 (claim 1), 4 (claim 8), and 7 (claim 28).) This is incorrect.

For sake of completeness, the sections of Marsh cited by the Office Action are repeated below.

The thickness of the RuSi_xO_y -containing adhesion layer 23 is dependent upon the application for which it is used. Preferably, the thickness is in the range of about 10 Å to 1,000 Å. More preferably, *the thickness of the RuSi_xO_y -containing adhesion layer 23 is in the range of about 50 Å to about 500 Å.* For example, this preferred thickness range of about 50 Å to about 500 Å is applicable to a RuSi_xO_y -containing adhesion layer used for forming a bottom electrode stack of a capacitor structure.

The conductive layer 24 shown in FIG. 1 is representative of one or more layers. For example, *the conductive layer 24 may include* one or more layers formed of a metal or metal oxide, or combinations thereof. Such layers may include one of RuO_2 , MoO_2 , Rh, RhO_2 , IrO_2 , Ru, Pt, Pd and Ir, such as when the RuSi_xO_y -containing adhesion layer is used in an electrode stack. Alternatively, the conductive layer 24 may be a contact material, such as aluminum, when the RuSi_xO_y -containing adhesion layer is used in a contact or interconnect application. Such conductive layers may be formed by any method known to those skilled in the art.

(Marsh, column 5, lines 21-40.) (Emphasis added.)

Contrary to the assertions in the Office Action, Marsh discloses that “the thickness of the RuSi_xO_y -containing adhesion layer 23 is in the range of about 50 Å to about 500 Å,” not the “conductive layer (24)” as asserted by the Office Action. (Column 5, lines 25-27.) Thus, the combination of Nakabayashi and Marsh fails to disclose a second conductive liner about 20 to about 50 Å in thickness as recited in Applicants’ claims.

Furthermore, Nakabayashi explicitly discloses that the second conductive liner has a thickness about 50 nm (500 Å), that is 10+ times greater than what is claimed. The Office Action attempts to ignore this explicit limitation to Nakabayashi to substitute, though incorrectly, teachings of another reference. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of those references would have suggested to

those of ordinary skill in the art.” (MPEP § 2145, *citing In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Wherein Nakabayashi explicitly teaches a thickness 10+ times greater than the thickness recited in Applicants’ claims, it cannot be said that Nakabayashi would have suggested to one skilled in the art that it could be combined with another reference to suggest a thickness 10+ times smaller.

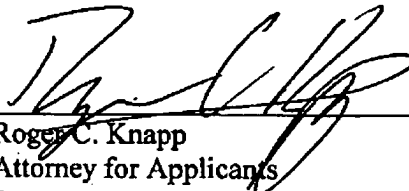
In view of the above, Applicants respectfully request that the rejection of claims 1 and 8 under 35 U.S.C. § 103(a) as assertedly being unpatentable over Nakabayashi in view of Marsh and the rejection of claim 28 under 35 U.S.C. § 103(a) as assertedly being unpatentable over Nakabayashi in view of Marsh and further in view of Ramesh be withdrawn.

Claims 2, 4-7, 10-13, 21-27, 29, and 32 depend from and further limit independent claims 1, 8, and 28 in a patentable sense. Accordingly, Applicants respectfully request that the rejections of claims 2, 4-7, 10-13, 21-27, 29, and 33 under 35 U.S.C. § 103(a) be withdrawn as well.

In view of the above, Applicants respectfully submit that the application is in condition for allowance and request that the Examiner pass the case to issuance. If the Examiner should have any questions, Applicants request that the Examiner contact Applicants' attorney at the address below. No fee is believed due in connection with this filing. However, in the event that there are any fees due, please charge the same, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

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Date


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